

### **Abstract of the Disclosure**

Extensions and generalizations are made to the pedal steel guitar. Separate transducers provided to each string permit fixed or variable pitch and timbre modifications determined by stored program control. Variable pitch and timbre modifications may be controlled by physical controllers such as single or multi-parameter foot pedals, knee levers, and wrist controllers. Physical controllers may return to an original position or hold their position after operation. A traditional mechanical tuning changer operated by traditional foot pedals and knee levers may be included; the latter may operate physical controllers. The bar position may be sensed, and the bar may include physical controllers wirelessly linked to the instrument. A miniature keyboard and strumpad may be provided in the picking area to control synthesizers and produce MIDI output. Strumpad operation can be controlled with chord buttons, foot pedals, or other physical controller devices. Physical controllers, string vibration, and other types of control devices may also be used to generate MIDI output.